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09/286,794

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MARK E. BAER

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03/20/2006

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EXAMINER

BLOUNT, STEVEN

ART UNIT

PAPER NUMBER

2668

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/286,794

Applicant(s)

BAER ET AL.

Examiner

Steven Blount

Art Unit

2668

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 52, 55 - 56, 58 - 59, 61 - 70 is/are pending in the application.
- 4a) Of the above claim(s) 52, 55 - 56, 62 - 67, 70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 58, 59, 61, 68 and 69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

A. The examiner notes applicants election of claims 58 – 59, 61, and 68 – 69 without traverse.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 58 – 59 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 3,665,758 to Tiller in view of U.S. patent 4,147,470 to Brooks et al and U.S. patent 4,299,319 to Bochan and U.S. patent 3,270,686 to Thompson.

With regard to claim 58, Tiller teaches motor shaft 67/71 with fan impeller 111 installed proximate the first end (see numeral 71) with first washer 99/95 (col 3, lines 16+) on the first fan side; shaft extension 39 coupled to assembly (load cell) 21. Tillis does not, however, teach a second washer disposed on a side of the fan impeller that is toward the first end of the motor shaft, though Tiller does teach in figure 3 nut 75 in direct contact with impeller 111. Tillis also does not teach joining the motor shaft and the shaft extension in a non-rotational manner.

Brooks et al teach having a pair of washers straddling and protecting impeller 12. See figures 1 and 2.

Bochan teaches press fitting a shaft extension with a motor shaft in figure 1 (members 12 and 18) in view of the fact that "The resultant geometry simplification of

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the motor shaft extension and the motor shaft itself further *reduces the cost* since the motor shaft and the shaft extension may be fitted together, resulting in a highly concentric assembly and eliminating the cost of the shaft extension clamp” (emphasis added). Tiller/Brooks et al/Bochan do not however teach a non-circular end on the motor shaft of *Tiller/Brooks et al/Bochan*.

Thompson teaches a motor shaft (drive shaft) 88 with a splined end (ie, non-circular cross section) wherein the splined end is used to effectuate a secure coupling between the said drive shaft and the shaft extension (see the area “under” numeral 165 in figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have placed a washer below the nut 75 and above impeller 121 in Tiller, in light of the teachings of Brooks et al, in order to prevent the nut from injuring the impeller when it is tightened onto the impeller. It would have been further obvious to have press fit the shaft extension onto the motor shaft of Tiller/Bochan, in light of the teachings of Bochan, in order to reduce the cost of assembly, and to have provided the motor shaft (12 in Bochan, 67/71 in Tiller) with a splined end, in light of the teachings of Thompson, in order to provide a more effective and secure coupling between the shaft and shaft extension.

With regard to claim 59, note the discussion of nut 75 above.

3. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,709,794 to Lengsfeld et al.

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Lengsfeld teaches (figure 1) motor shaft 8 (col 2, line 57) with a first end (near 32) having a recessed-threaded surface geometry of non-circular disposition, wherein the surface geometry is eccentric. The examiner notes that a threaded screw has a non-circular cross section in view of the fact that the threads, in forming the helical perimeter, skew the circular shape at least a small amount.

Lengsfeld et al also teach fan impeller 5 installed on the motor shaft nearly proximate the first end of the motor shaft. Lengsfeld also teach shaft extension 32 to be installed inside shaft 8 and that shaft extension 32 has a threaded, non-circular surface geometry coupled to the first end of the motor shaft, with nut 33 "rotatably connected" to the said shaft extension, and "screwed onto the thread stem 32" (col 3, line 35). Lengsfeld also teach lower a "lower" assembly (drive shaft 38, bearings 41, 42, etc) coupled to the shaft extension.

The examiner notes that although the motor shaft is "nearly proximate" the first end of the shaft and not exactly "proximate" it, this difference in location is an obvious variation which would have been obvious to one of ordinary skill in the art at the time of the invention.

4. Claim 68 is rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 3,665,758 to Tiller in view of U.S. patent 4,147,470 to Brooks et al.

See the rejection of claim 58 above (as well as the rejection of claim 58 in the previous Office action) and note that the cross sectional area of the threaded motor shaft 67/71 in figure 3 is eccentric in view of the threads on the screw.

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5. Claim 69 is rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 3,665,758 to Tiller in view of U.S. patent 4,299,319 to Bochan and U.S. patent 3,270,686 to Thompson.

See the rejection of claim 58 above and note that the Brooks reference is not necessary because the washers are not claimed.

6. Applicants arguments are moot in view of the new grounds of rejection. The examiner notes that it would not require a great deal of insight by one of ordinary skill in the art to recognize the cost benefit of press-fitting to rotational (ie, threaded) coupling. The examiner also notes that the term "eccentric" is quite broad, and is defined as "deviating from an established or usual pattern or style" (Merriam Websters Collegiate Dictionary, 10th edition).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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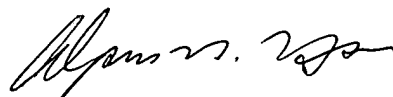
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Blount whose telephone number is 571-272-3071. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, may be reached at 571-272-629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB

3/13/06



ALPUS H. HSU
PRIMARY EXAMINER